

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) An image generator, comprising:
a beam combiner, comprising:
 - a first beam input face aligned to receive first and second beams of electromagnetic energy respectively having a first and second wavelengths;
 - a beam output face;
 - a first reflector aligned to reflect the first received beam toward the beam output face; and
 - a second reflector aligned to pass the first beam from the first reflector and to reflect the received second beam toward the beam output face;a first beam source located a first distance from the first beam input face and operable to generate the first beam of electromagnetic energy; and
a second beam source located a second distance from the first beam input face and operable to generate the second beam of electromagnetic energy, the second distance being different than the first distance.
2. (currently amended) The image generator of claim 1 ~~beam combiner of claim 1, further comprising wherein:~~
 - ~~wherein the first beam input face is aligned to receive a third beam of electromagnetic energy having a third wavelength;~~
 - the beam combiner comprises a third reflector aligned to reflect the received third beam toward the beam output face; and
 - ~~wherein the first and second reflectors are aligned to pass the third beam from the third reflector.~~
3. (currently amended) The image generator of claim 1 wherein ~~beam combiner of claim 1, further comprising:~~
 - ~~wherein the first and second beams respectively comprise green and blue light;~~

wherein the first beam input face is aligned to receive a third beam of red light;
the beam combiner comprises a third reflector aligned to reflect the received third beam toward the beam output face; and

wherein the first and second reflectors are aligned to pass the third beam from the third reflector.

4. (currently amended) The image generator of claim 1 wherein beam combiner of claim 1, further comprising:

the beam combiner comprises a second beam input face aligned to receive a third beam of electromagnetic energy having a third wavelength and directed toward the beam output face; and

wherein the first and second reflectors are aligned to pass the third beam from the second beam input face.

5. (currently amended) The image generator of claim 1 wherein beam combiner of claim 1, further comprising:

wherein the first and second beams respectively comprise green and blue light;
the beam combiner comprises a second beam input face aligned to receive a third beam of red light directed toward the beam output face; and

wherein the first and second reflectors are aligned to pass the third beam from the second beam input face.

6. (currently amended) The image generator of claim 1 beam combiner of claim 1 wherein:

the first reflector is substantially planar; and
the second reflector is substantially planar and is substantially parallel to the first reflector.

7. (currently amended) The image generator beam combiner of claim 1 wherein:

the first beam input face is substantially planar; and
the second reflector is substantially planar and intersects the beam input face at an acute angle.

8. (currently amended) ~~The image generator beam-combiner~~ of claim 1 wherein:

the beam output face is substantially planar; and

the second reflector is substantially planar and intersects the beam output face at an acute angle.

9. (currently amended) ~~A beam combiner, comprising:~~
a first beam input face aligned to receive first and second beams of electromagnetic energy respectively having a first and second wavelengths;

a beam output face;

a first reflector aligned to reflect the first received beam toward the beam output face;

a second reflector aligned to pass the first beam from the first reflector and to reflect the received second beam toward the beam output face;

~~The beam combiner of claim 1, further comprising:~~

wherein the first beam input face is aligned to receive a third beam of electromagnetic energy having a third wavelength;

a third reflector aligned to reflect the received third beam toward the beam output face;

wherein the third beam is operable to propagate from the first beam input face, through first regions of the first and second reflectors, to the third reflector, and through second regions of the first and second reflectors; and

wherein the first beam is operable to propagate from the first beam input face, through a first region of the second reflector, to the first reflector, and through a second region of the second reflector.

10. (currently amended) ~~The image generator beam-combiner~~ of claim 1 wherein the first beam input face comprises a first segment face aligned to receive the first beam of electromagnetic energy and a second segment face aligned to receive the second beam of electromagnetic energy, the second segment face being noncoplanar with the first segment face.

11. (currently amended) ~~The image generator~~ beam combiner of claim 1 wherein the first beam input face comprises a first segment face aligned to receive the first beam of electromagnetic energy and a second segment face aligned to receive the second beam of electromagnetic energy, the second segment face being substantially coplanar with the first segment face.

12. (currently amended) ~~An image generator,~~ comprising:
beam combiner, comprising:

a first section of transparent material having a beam input face and a beam output face;

a second section of transparent material having a beam input face, a beam directing face adjacent to the beam output face of the first section and operable to reflect a second wavelength and to pass a first wavelength of electromagnetic radiation, and a beam output face; and

a third section of transparent material having a beam input face, a beam directing face adjacent to the beam output face of the second section and operable to reflect a third wavelength of electromagnetic radiation and to pass the first and second wavelengths, and a beam output face;

a first beam source located a first distance from the beam input face of the second section and operable to direct toward the input face a first beam of electromagnetic radiation having the second wavelength; and

a second beam source located a second distance from the beam input face of the third section and operable to direct toward the input face a second beam of electromagnetic radiation having the third wavelength, the second distance being different than the first distance.

13. (currently amended) ~~The image generator~~ beam combiner of claim 12 wherein:

the first wavelength of electromagnetic radiation comprises red light;

the second wavelength of electromagnetic radiation comprises green light; and

the third wavelength of electromagnetic radiation comprises blue light.

14. (currently amended)The image generator~~beam combiner~~ of claim 12 wherein the first section comprises a beam directing face operable to reflect the first wavelength of electromagnetic radiation.

15. (currently amended)The image generator~~beam combiner~~ of claim 12 wherein:

the beam input face and the beam output face of the first section intersect at an acute angle;

the beam input face and the beam output face of the second section intersect at an obtuse angle; and

the beam input face and the beam output face of the third section intersect at a substantially right angle.

16. (currently amended)The image generator~~beam combiner~~ of claim 12 wherein:

the beam input face and the beam output face of the first section intersect at an obtuse angle;

the beam input face and the beam output face of the second section intersect at an obtuse angle; and

the beam input face and the beam output face of the third section intersect at a substantially right angle.

17. (currently amended)The image generator~~beam combiner~~ of claim 12 wherein:

the beam input face and the beam directing face of the second section intersect at an acute angle; and

the beam input face and the beam directing face of the third section intersect at an acute angle.

18. (currently amended)The ~~beam combiner~~image generator of claim 12 wherein:

the first section comprises a beam directing face operable to reflect the first wavelength of electromagnetic radiation;

the beam input face and the beam directing face of the first section intersect at an acute angle;

the beam input face and the beam directing face of the second section intersect at an acute angle; and

the beam input face and the beam directing face of the third section intersect at an acute angle.

19. (currently amended)The image generator~~beam combiner~~ of claim 12 wherein:

the beam directing face and the beam output face of the second section are substantially parallel; and

the beam directing face and the beam output face of the third section intersect at an acute angle.

20. (currently amended)The image generator~~beam combiner~~ of claim 12 wherein:

the first section comprises a beam directing face aligned to reflect the first wavelength of electromagnetic radiation;

the beam directing face and the beam output face of the first section are substantially parallel;

the beam directing face and the beam output face of the second section are substantially parallel; and

the beam directing face and the beam output face of the third section intersect at an acute angle.

21. (currently amended)The image generator~~beam combiner~~ of claim 12 wherein the height of the beam output face of the third section is substantially equal to the lengths of the beam input faces of the first, second, and third sections.

22. (currently amended)The image generator~~beam combiner~~ of claim 12 wherein the beam input faces of the second and third sections of transparent material are substantially coplanar.

23. (currently amended)An image generator, comprising:
a beam combiner, comprising:

a first section of transparent material having a beam input face and having a first beam directing face operable to reflect a second wavelength and to pass a first wavelength of electromagnetic radiation;²

a second section of transparent material having a beam input face, a beam receiving face adjacent to the first beam directing face of the first section, and a beam directing face operable to reflect a third wavelength of electromagnetic radiation and to pass the first and second wavelengths;² and

a third section of transparent material having a beam input face, a beam receiving face adjacent to the beam directing face of the second section, and a beam output face;

a first beam source located a first distance from the beam input face of the third section and operable to direct toward the input face a first beam of electromagnetic radiation having the first wavelength;

a second beam source located a second distance from the beam input face of the first section and operable to direct toward the input face a second beam of electromagnetic radiation having the second wavelength, the second distance being different than the first distance; and

a third beam source located a third distance from the beam input face of the second section and operable to direct toward the input face a third beam of electromagnetic radiation having the third wavelength.

24. (currently amended) ~~The beam combiner~~image generator of claim 23 wherein:

the first wavelength of electromagnetic radiation comprises red light;

the second wavelength of electromagnetic radiation comprises green light; and

the third wavelength of electromagnetic radiation comprises blue light.

25. (currently amended) ~~The image generator~~beam combiner of claim 23 wherein the first section comprises a second beam directing face operable to reflect the first wavelength of electromagnetic radiation toward the first beam directing face.

26. (currently amended)The image generator~~beam combiner~~ of claim 23 wherein:

the beam input face and the first beam directing face of the first section intersect at an acute angle;

the beam input face and the beam directing face of the second section intersect at an obtuse angle; and

the beam input face and the beam output face of the third section intersect at a substantially right angle.

27. (currently amended)The image generator~~beam combiner~~ of claim 23 wherein:

the beam input face and the first beam directing face of the first section intersect at an obtuse angle;

the beam input face and the beam directing face of the second section intersect at an obtuse angle; and

the beam input face and the beam output face of the third section intersect at a substantially right angle.

28. (currently amended)The image generator~~beam combiner~~ of claim 23 wherein:

the beam input face and the beam receiving face of the second section intersect at an acute angle; and

the beam input face and the beam receiving face of the third section intersect at an acute angle.

29. (currently amended)The image generator~~beam combiner~~ of claim 23 wherein:

the first section comprises a second beam directing face operable to reflect the first wavelength of electromagnetic radiation;

the beam input face and the first beam directing face of the first section intersect at an obtuse angle;

the beam input face and the second beam directing face of the first section intersect at an acute angle;

the beam input face and the beam directing face of the second section intersect at an obtuse angle;

the beam input face and the beam receiving face of the second section intersect at an acute angle; and

the beam input face and the beam receiving face of the third section intersect at an acute angle.

30. (currently amended)The image generator~~beam combiner~~ of claim 23 wherein:

the beam receiving face and the beam directing face of the second section are substantially parallel; and

the beam receiving face and the beam output face of the third section intersect at an acute angle.

31. (currently amended)The image generator~~beam combiner~~ of claim 23 wherein:

the first section comprises a second beam directing face aligned to reflect the first wavelength of electromagnetic radiation;

the first and second beam directing faces are substantially parallel;

the beam receiving face and the beam directing face of the second section are substantially parallel; and

the beam receiving face and the beam output face of the third section intersect at an acute angle.

32. (currently amended)The image generator~~beam combiner~~ of claim 23 wherein the height of the beam output face of the third section is substantially equal to the lengths of the beam input faces of the first, second, and third sections.

33. (currently amended)The image generator~~beam combiner~~ of claim 23 wherein the beam input faces of the second and third sections of transparent material are substantially coplanar.

34. (currently amended)An image-beam generator, comprising:
a beam source operable to generate the first, second, and third beams of light respectively having first, second, and third wavelengths; and

a beam combiner, including,

a beam input face aligned to receive the first, second, and third beams,

a beam output face aligned to emanate an image beam that includes the first, second, and third beams,

a first reflector aligned to reflect the first received beam toward the beam output face,

a second reflector aligned to pass the first beam from the first reflector and to reflect the received second beam toward the beam output face in alignment with the first beam, and

a third reflector aligned to pass the first and second beams from the first and second reflectors and to reflect the received third beam toward the beam output face in alignment with the first and second beams; and

wherein the first, second, and third beams traverse respective paths from the beam source to the beam output face of the beam combiner, the paths having substantially the same optical length.

35. (Original) The image-beam generator of claim 34 wherein the first, second, and third beams respectively comprise red, green, and blue components of an image.

36. (Cancelled)

37. (Original) The image-beam generator of claim 34, further comprising: wherein the beam-output face is aligned to emanate a composite beam that includes the first, second, and third beams; and

an optical train aligned after the beam output face to generate the image beam from the composite beam.

38. (Original) The image-beam generator of claim 34 wherein the beam source comprises first, second, and third beam generators respectively operable to generate the first, second, and third beams.

39. (Original) The image beam generator of claim 34 wherein the beam input face comprises first, second, and third substantially coplanar segment faces aligned to respectively receive the first, second, and third beams.

40. (Original) The image beam generator of claim 34 wherein the beam input face comprises first, second, and third segment faces aligned to respectively receive the first, second, and third beams, one of the segment faces being noncoplanar with another one of the segment faces.

41. (currently amended)An image-beam generator, comprising:
a beam source operable to generate the first, second, and third beams of light respectively having first, second, and third wavelengths;~~and~~
a beam combiner, including,
a first beam input face aligned to receive the first beam;
a second beam input face aligned to receive the second and third beams,
a beam output face aligned to emanate an image beam that includes the first, second, and third beams,
a first reflector aligned to pass the first beam from the first beam input face and to reflect the received second beam toward the beam output face in alignment with the first beam, and
a second reflector aligned to pass the first and second beams from the second reflector and to reflect the received third beam toward the beam output face in alignment with the first and second beams; and
wherein the first, second, and third beams traverse respective paths from the beam source to the beam output face of the beam combiner, the paths having substantially the same optical length.

42. (Original) The image-beam generator of claim 41 wherein the first, second, and third beams respectively comprise red, green, and blue components of an image.

43. (Original) The image-beam generator of claim 41 wherein the first, second, and third beams respectively comprise red, green, and blue components of a pixel.

44. (Cancelled)

45. (currently amended)An image generator, comprising:

a beam source operable to generate the first, second, and third beams of light respectively having first, second, and third wavelengths;

a beam combiner, including,

a beam input face aligned to receive the first, second, and third beams,

a beam output face aligned to emanate an image beam that includes the first, second, and third beams,

a first reflector aligned to reflect the first received beam toward the beam output face,

a second reflector aligned to pass the first beam from the first reflector and to reflect the received second beam toward the beam output face in alignment with the first beam, and

a third reflector aligned to pass the first and second beams from the first and second reflectors and to reflect the received third beam toward the beam output face in alignment with the first and second beams; and

a scanner operable to generate an image with the image beam; and

wherein the first, second, and third beams traverse respective paths from the beam source to the beam output face of the beam combiner, the paths having substantially the same optical length.

46. (Original) The image generator of claim 45 wherein the scanner comprises a mirror operable to generate the image by sweeping the image beam across a display region.

47. (Original) The image generator of claim 45 wherein the scanner comprises a microelectromechanical scanner.

48. (Original) The image generator of claim 45 wherein the scanner is operable to generate the image on a display screen.

49. (currently amended)An image generator, comprising:

a beam source operable to generate the first, second, and third beams of light respectively having first, second, and third wavelengths;

a beam combiner, including,
 a first beam input face aligned to receive the first beam;
 a second beam input face aligned to receive the second and third beams,
 a beam output face aligned to emanate an image beam that includes the first,
 second, and third beams,
 a first reflector aligned to pass the first beam from the first beam input face and to
 reflect the received second beam toward the beam output face in alignment with the first
 beam, and
 a second reflector aligned to pass the first and second beams from the second
 reflector and to reflect the received third beam toward the beam output face in
 alignment with the first and second beams; and
 a scanner operable to generate an image with the image beam; and
wherein the first, second, and third beams traverse respective paths from the
beam source to the beam output face of the beam combiner, the paths having
substantially the same optical length..

50. (currently amended) A method, comprising:

directing a first beam of electromagnetic energy having a first wavelength from a
first source, through received by a beam input face, and onto a first reflector;

directing the first beam having a first wavelength through a second first reflector
and a beam output face -with the a first second reflector such that the first beam
traverses a first path between the first source and the beam output face; and

directing a second beam of electromagnetic energy having a second wavelength
from a second source, through received by the beam input face, and onto -and having a
second wavelength with the second first reflector; and

directing the second beam through the beam output face with the second
reflector -wherein the first beam is substantially aligned with the first beam and
such that the second beam traverses a second path between the second source and
the beam output face, the second path having substantially the same optical length as
the first path.

51. (Original) The method of claim 50, further comprising directing a third beam of electromagnetic energy having a third wavelength through the first and second reflectors such that the third beam is substantially aligned with the first and second beams.

52. (Original) The method of claim 50 wherein the first, second, and third beams respectively comprise green, blue, and red light.

53. (currently amended) The method of claim ~~50~~51, wherein directing the first ~~third~~ beam comprises reflecting the ~~third~~first beam through the first ~~and second~~ reflectors ~~with a third~~second reflector.

54. (currently amended) A method, comprising:
directing a first beam of electromagnetic energy received by a beam input face and having a first wavelength through a first reflector with a second reflector;
directing a second beam of electromagnetic energy received by the beam input face and having a second wavelength with the first reflector wherein the first beam is substantially aligned with the second beam; and

~~The method of claim 50, wherein directing the first beam further comprises:~~
directing the first beam through the first reflector; ~~and~~
reflecting the first beam back through the first reflector with a ~~the~~ second reflector.

55. (currently amended) A method, comprising:
generating first, second, and third beams of light respectively having first, second, and third wavelengths;
directing the first beam through first and second reflectors;
directing the second beam through the second reflector with the first reflector wherein the directed second beam substantially coincides with the directed first beam;
and
directing the third beam with the second reflector wherein the directed third beam substantially coincides with the directed first and second beams;

-wherein directing the first beam comprises causing the first beam to traverse a first optical path from a first starting location to a destination, the first optical path having a length;

directing the second beam comprises causing the second beam to traverse a second optical path from a second starting location to the destination, the second optical path having the same length; and

directing the third beam comprises causing the third beam to traverse a third optical path from a third starting location to the destination, the third optical path having the same length

56. (Original) The method of claim 55 wherein the first, second, and third beams respectively comprise red, green, and blue components of an image.

57. (Cancelled)

58. (Original) The method of claim 55, further comprising scanning the substantially coinciding first, second, and third beams to generate an image on a display.

59. (Original) The method of claim 55, further comprising scanning the coinciding first, second, and third beams into an eye to generate an image on a retina.

60. - 76. (Cancelled)

77. (currently amended) A beam combiner, comprising:

a first section of transparent material having a beam-input face and a beam-output face;

a second section of transparent material having a beam-input face, a beam directing face adjacent to the beam-output face of the first section and operable to reflect a second wavelength and to pass a first wavelength of electromagnetic radiation, and a beam-output face; and

a third section of transparent material having a beam-input face, a beam directing face adjacent to the beam-output face of the second section and operable to reflect a third wavelength of electromagnetic radiation smaller than the first wavelength and to pass the first and second wavelengths, and a beam-output face;

a first beam source located a first distance from the beam-input face of the second section and operable to direct toward the input face a first beam of electromagnetic radiation having the second wavelength; and

a second beam source located a second distance from the beam input face of the third section and operable to direct toward the input face a second beam of electromagnetic radiation having the third wavelength, the second distance being different than the first distance.

78. (currently amended) A beam combiner, comprising:

a first section of transparent material having a beam-input face and a beam-output face;

a second section of transparent material having a beam-input face, a beam directing face adjacent to the beam-output face of the first section and operable to reflect a second wavelength and to pass a first wavelength of electromagnetic radiation, and a beam-output face; and

a third section of transparent material having a beam-input face, a beam directing face adjacent to the beam-output face of the second section and operable to reflect a third wavelength of electromagnetic radiation larger than the first wavelength and to pass the first and second wavelengths, and a beam-output face; and

a first beam source located a first distance from the beam-input face of the second section and operable to direct toward the input face a first beam of electromagnetic radiation having the second wavelength; and

a second beam source located a second distance from the beam-input face of the third section and operable to direct toward the input face a second beam of electromagnetic radiation having the third wavelength, the second distance being different than the first distance.

79. (Cancelled)

80. (new) The image generator of claim 12, further comprising a third beam source located a third distance from the beam input face of the first section and

operable to direct toward the input face a third beam of electromagnetic radiation having the first wavelength.

81. (new) The image generator of claim 80 wherein the third distance substantially equals the first distance.